

Rescission of Cease and Desist Order, R7-2008-0008

City of Brawley WWTP

Staff Report

Executive Summary

The City of Brawley (Discharger) owns and operates a municipal Wastewater Treatment Plant (WWTP) and sewage collection system serving the City. The California Regional Water Quality Control Board, Colorado River Basin Region (Colorado River Basin Water Board) has adopted five National Pollutant Discharge Elimination System Permit (NPDES) permits/Waste Discharge Requirements (WDRs) regulating the WWTP: Board Order Nos. 95-014 and 00-087, R7-2005-0021, R7-2010-0022, and R7-2015-0004¹.

On March 19, 2008, the Colorado River Basin Water Board adopted Cease and Desist Order (CDO) R7-2008-0008 to require the Discharger to cease and desist from discharging wastes in violation of Board Order R7-2005-0021, and to implement corrective actions in accordance with specified tasks and time schedules. The primary tasks that the Discharger was required to complete were: (1) to complete a proposed POTW upgrade; and (2) to develop and implement a Pretreatment Program. On November 19, 2008, the Colorado River Basin Water Board adopted Special Board Order R7-2008-0069, which amended CDO R7-2008-0008 by establishing interim effluent limits for ammonia. On January 21, 2010, the Colorado River Basin Water Board also adopted Special Board Order R7-2010-0003 further amending CDO R7-2008-0008 by extending the compliance deadline to complete the new WWTP.

The Discharger completed its POTW upgrades in early 2012 and the Colorado River Basin Water Board approved the Discharger's proposed Pretreatment Program on March 20, 2014. Based on the water quality data obtained from the California Integrated Water Quality System (CIWQS) and information provided by the Discharger, the WWTP has achieved full compliance with applicable effluent limitations, with no ammonia or toxicity violations for over the last three and a half years. Accordingly, staff is recommending that the Colorado River Basin Water Board rescinds the CDO R7-2008-0008, as amended by Special Orders R7-2008-0069 and R7-2010-0003.

BACKGROUND

The Discharger owns and operates a WWTP that provides wastewater service for approximately 27,000 customers within the city limits and one nondomestic user. The WWTP has a design treatment capacity up to 5.9 million gallons per day (mgd). The Discharger's WWTP and collection system is a publicly owned treatment works (POTW), as defined in Title 40 of the Code of Federal Regulations (CFR) section 403.3(q), and discharges its effluent to the New River, which is a tributary to the Salton Sea. The New River and the Salton Sea are waters of the United States. The Discharger is currently subject to the requirements set forth in WDRs Board Order R7-2015-0004.

¹ All these Board Orders have the same NPDES Permit Number, NPDES No. CA0104523.

From 1999 to approximately February 2012, the Discharger owned and operated various configurations of a WWTP, which had treatment ponds as its main treatment system. During these years, the Colorado River Basin Water Board adopted four different WDRs to regulate the discharge from the WWTP. Table 1, below, shows the various Board WDRs that were in effect during this period, as well as a description of the City's treatment units.

Table 1. WDRs Board Orders for the City of Brawley WWTP

| Board Order No. | Effective Date | Description of WWTP | WWTP Design Capacity (mgd) |
|-----------------|------------------------|--|--|
| 95-014 | 3/29/1995 to 6/27/2000 | Two bar screens, an aerated grit chamber, two primary clarifiers, two aeration ponds with floating aerators, three stabilization ponds, two anaerobic digesters, and sludge drying beds. | 3.9 |
| 00-087 | 6/28/2000 to 6/28/2005 | Two bar screens, an aerated grit chamber, two primary clarifiers*, two aeration ponds with floating aerators, three stabilization ponds, two anaerobic digesters, and sludge drying bed. | 3.9 (until expansion completed) 5.9 (after expansion completed) |
| R7-2005-0021 | 6/29/2005 to 5/19/2010 | Two bar screens, an aerated grit chamber, five treatment lagoons, and Ultraviolet light disinfection system, sludge drying beds. | 5.9 |
| R7-2010-0022 | 5/20/2010 to 5/07/2014 | Headworks, five treatment lagoons, and Ultraviolet light disinfection system, sludge drying beds (5/20/2010 to 2/2012). | 5.9 |
| | 5/08/2014 to 5/19/2015 | Special Board Order R7-2014-0009 amending R7-2010-0022 to incorporate the pretreatment program | |

*According to Colorado River Basin Water Board records, the Discharger stopped using the clarifiers in 2002.

From 1999 to May 2012, the Discharger experienced chronic compliance problems with its NPDES permits because its pond-based treatment system could not effectively treat and remove ammonia, which also resulted in non-compliance with the toxicity requirements in the NPDES permits. As a result, the Colorado River Basin Water Board issued several enforcement orders, including Time Schedule Order 99-054 and a Cleanup and Abatement Order R7-2004-0079, to bring the Discharger in compliance with its NPDES permits. The TSO required the Discharger to increase treatment capacity by March 2001. The CAO required the Discharger to address the cause of the ammonia toxicity violations and to complete WWTP upgrades by January 31, 2006, to bring its operation into compliance with the NPDES Permit.

In response to the TSO, the Discharger added aeration to its ponds, removed accumulated sludge, and installed a disinfection system also. Purportedly, these improvements brought the WWTP's treatment capacity to 5.9 mgd. However, the improvements failed to bring the Discharger in compliance with its NPDES permit². The Discharger then reconfigured its treatment facility's flow distribution system and installed flow return pumps to optimize nitrification and denitrification of the wastewater flowing through the treatment system in accordance with CAO R7-2004-0079. These improvements also failed to achieve their intended objectives. Consequently, because of this failure and the lack of an approved pretreatment

² Brawley Beef Company, which began discharging its wastewater into the Discharger's sewage collection system in 2001, was the main source of the ammonia and other compliance problems at the WWTP.

program, the Discharger found itself again in chronic violation of its NPDES Permit limits for ammonia³.

CEASE AND DESIST ORDER R7-2008-0008

On March 19, 2008, and based on the foregoing, the Colorado River Basin Water Board adopted Cease and Desist Order (CDO) R7-2008-0008 to require the Discharger to cease and desist from discharging wastes in violation of Board Order R7-2005-0021, and to implement corrective actions in accordance with specified tasks and time schedules. In pertinent part, these tasks required the Discharger to complete additional proposed POTW upgrades, to achieve full compliance with its current NPDES permit, Board Order R7-2005-0021, by December 31, 2010. These tasks also required the Discharger to submit design plans and specifications and a long-term plan for operation and maintenance of proposed upgrades as shown in Table 2, below.

Table 2. Wastewater Treatment Plant Upgrade milestones and completion dates

| Milestone | Milestone Description | Milestone Submittal | Completion Date |
|-----------|--|--|-------------------|
| 1.A | Complete Preliminary Design | Submit a Copy of the Design Plans and specification | November 15, 2008 |
| 1.B | Complete Design of the Wastewater Treatment Plant Upgrades | Submit a Copy of Final Design Drawings and Specification | December 15, 2008 |
| 1.C | Complete Construction of the Wastewater Treatment Plant Upgrades | Submit Summary and Verification of Construction Completion | December 31, 2010 |
| 1.D | Complete Operational Startup of New Wastewater Treatment Plant Upgrades | Submit Plan consisting of Operation and Maintenance Program for Wastewater Treatment Plant Upgrades | December 31, 2010 |
| 1.F | Achieve full compliance with Order No. R7-2005-0021 (NPDES Permit No. CA0104523) | Submit written certification that WWTP is in compliance with Order No. R7-2005-0021 (NPDES Permit No. CA0104523) | December 31, 2010 |

Additionally the Discharger was required to prepare and submit a Pretreatment Program to the Colorado River Basin Water Board for approval and implementation in accordance with the tasks, milestones, and deadlines shown in Table 3, below:

Table 3. Pretreatment program tasks, milestones and completion dates

| Task | Milestone Description | Milestone Submittal | Completion date |
|------|---|--|-------------------|
| 2.A. | Develop proposed Pretreatment Program | Submit proposed Pretreatment Program | December 15, 2008 |
| 2.B. | Complete Long-term revenue plan | Submit copy of revenue plan | December 15, 2008 |
| 2.C. | Develop and adopt local limits and revised Pretreatment Ordinance | Submit written certification that it has begun implementing Pretreatment Program | February 15, 2009 |
| 2.D. | Issue all pending CIU | Submit written certification | May 15, 2009 |

³ By this time, the Board had also assessed \$369,000 in administrative civil liability for violations of the NPDES Permit.

| | | | |
|------|--|---|---------------|
| | permits | of issuance of CIU permits | |
| 2.E. | Achieve Full Compliance with approved Pretreatment Program | Submit written certification of issuance of CIU permits for full compliance | June 15, 2009 |

On November 19, 2008, the Colorado River Basin Water Board adopted Special Board Order R7- 2008-0069, which amended CDO R7-2008-0008 by establishing interim effluent limits for ammonia in accordance with California Water Code (CWC) section 13385(j)(3)(C). These interim limits were added so that the Discharger would not be assessed Mandatory Minimum Penalties (MMPs) for violating the NPDES Permit ammonia limits while it completed its WWTP upgrades. Among other requirements, CWC section 13385(j)(3)(C) requires any time schedule that exceeds one year from the effective date of the enforcement order must include interim requirements and dates for their achievement. (CWC section 13385(j)(3)(C)(iii).) Thus, exemption from the MMPs was contingent on the Discharger complying with the CDO. In addition, the Colorado River Basin Water Board allowed these higher interim effluent limits with the expectation that compliance with the Pretreatment Program requirements in accordance with the Time Schedule in the CDO would ultimately improve water quality. The interim effluent limits for Total Ammonia as Nitrogen added by Special Board Order R7-2008-0069 are shown below:

| Constituents | Units | Effluent Limitations | |
|--------------------|---------|----------------------|---------------|
| | | Average Monthly | Maximum Daily |
| Total Ammonia as N | mg/l | 120 | 120 |
| | lbs/day | 5,900 | 5, 900 |

On January 21, 2010, the Colorado River Basin Water Board also adopted Special Board Order R7-2010-0003. This Special Board Order further amended CDO R7-2008-0008 by extending the deadline to complete the new WWTP and to bring the Discharger into compliance with Colorado River Basin Water Board requirements from December 31, 2010, to June 30, 2012⁴.

Even though the Discharger completed the WWTP upgrades by the new CDO deadline, the Discharger did not complete all of the tasks specified in the CDO for the Pretreatment Program (see Table 3, above). Specifically, the Discharger did not submit a proposed Pretreatment Program (Task 2.A) to the Colorado River Basin Water Board until January 2013, more than four (4) years after it was due. Further, Board staff and USEPA staff reviewed the submittal, and found it technically deficient⁵. Due, in part, to the untimely completion of these tasks, the Colorado River Basin Water Board brought an enforcement action against the Discharger. On September 19, 2013, the Colorado River Basin Water Board adopted Settlement Agreement and Stipulation for Entry of Administrative Civil Liability Order R7-2013-0068, assessing \$1,000,000 in liability against the Discharger.

COMPLIANCE WITH NPDES PERMIT AND CDO

CDO Compliance—The NPDES Permits/WDRs that have been in effect during the last 5 years are WDRs Board Order R7-2010-0022 and R7-2015-0004. The Discharger completed the

⁴ On May 20, 2010, the Colorado River Basin Water Board adopted Board Order R7-2010-0022, and rescinded Board Order R7-2005-0021 (as amended by Order R7-2008-0027) except for enforcement purposes.

⁵ Accordingly, on March 22, 2013, Board staff notified the Discharger that the Pretreatment Program must be revised and resubmitted.

proposed upgrades to the WWTP in 2012 in compliance with the milestones set forth CDO R7-2008-0008, as amended. The Discharger resubmitted its proposed Pretreatment Program on December 23, 2013 for review and approval by the Colorado River Basin Water Board. On March 20, 2014, the Colorado River Basin Water Board adopted of Resolution R7-2014-0020 approving the proposed Pretreatment Program with all implementation plans described in the CDO R7-2008-0008, as amended. The approved Pretreatment Program was incorporated into the then current NPDES permit, Board Order R7-2010-0022 pursuant to Special Board Order R7-2014-0009. Subsequently, the approved Pretreatment Program was incorporated into the current NPDES permit, Board Order R7-2015-0004. Following Program approval, the Discharger issued pretreatment permits to its Industrial Users as required by the CDO (Task 2.D).

On June 4, 2014, the Colorado River Basin Water Board staff and Tetra Tech, Inc. (a USEPA contractor) conducted a Pretreatment Compliance Inspection (PCI) of the Discharger's Pretreatment Program. The PCI reports noted that the Discharger used incorrect definition of instantaneous maximum in the sewer use ordinance (SUO). The report also recommended that the Discharger adopt a fats, oils, and grease (FOG) Control Program⁶. In sum, the Discharger has complied with all the tasks prescribed by the CDO and is fully implementing its approved Pretreatment Program as required by its NPDES Permit. It is also implementing staff's recommendations to strengthen its Program.

NPDES Permit Compliance—Colorado River Basin Water Board staff review of self-monitoring data provided by the Discharger pursuant to its Monitoring and Reporting Requirements in R7-2010-0022 and R7-2015-0004 indicate that the Discharger has been in consistent compliance with its NPDES permit effluent limits since June 2012. Table 3 below shows a comparison of the effluent average total ammonia concentrations before and after June 2012. As shown in Table 4, the post-June 2012 results are almost 20 times lower than the results obtained before the plant upgrades were completed and fully operational. Over 220 samples were collected from June 2012 through November 2016, and none of these samples exceeded the NPDES Permit effluent limitations for ammonia (see Figure 1 also). Based on this, since June 2012, the Discharger has been in full compliance with the final NPDES Permit effluent limitations.

Table 4. Comparison of Total Ammonia (as N) concentration before and after the WWTP improvement

| | Effluent Limitations | | Before June 30, 2012 | After June 30, 2012 |
|-----------------------|----------------------|---------------|-------------------------|-----------------------|
| | Average Monthly | Maximum Daily | Mean of Average Monthly | Mean of Maximum Daily |
| Ammonia, Total (as N) | 2.1 (mg/l) | 3.2(mg/l) | 49.3 (mg/l) | 1.47 (mg/l) |
| | 103 (lbs/day) | 157 (lbs/day) | 394.8 (lbs/day) | 20.64 (lbs/day) |

Toxicity testing results also showed that none of samples exceeded 2 chronic toxicity units (TUc) , nor exceeded 1 TUc of three sample median (consecutive samples).

⁶ Development of a FOG Control Program does not affect compliance with the tasks in CDO 2008-2008. However, it may be required under State Water Resources Control Board Water Quality (WQ) Order No. 2006-0003 to prevent sewer overflows. (WQ 2006-0003 § D.13.vii.). In fact, The Discharger reports that it is proceeding as it is and will submit the draft FOG Control Program for Colorado River Basin Water Board review by March 2017.

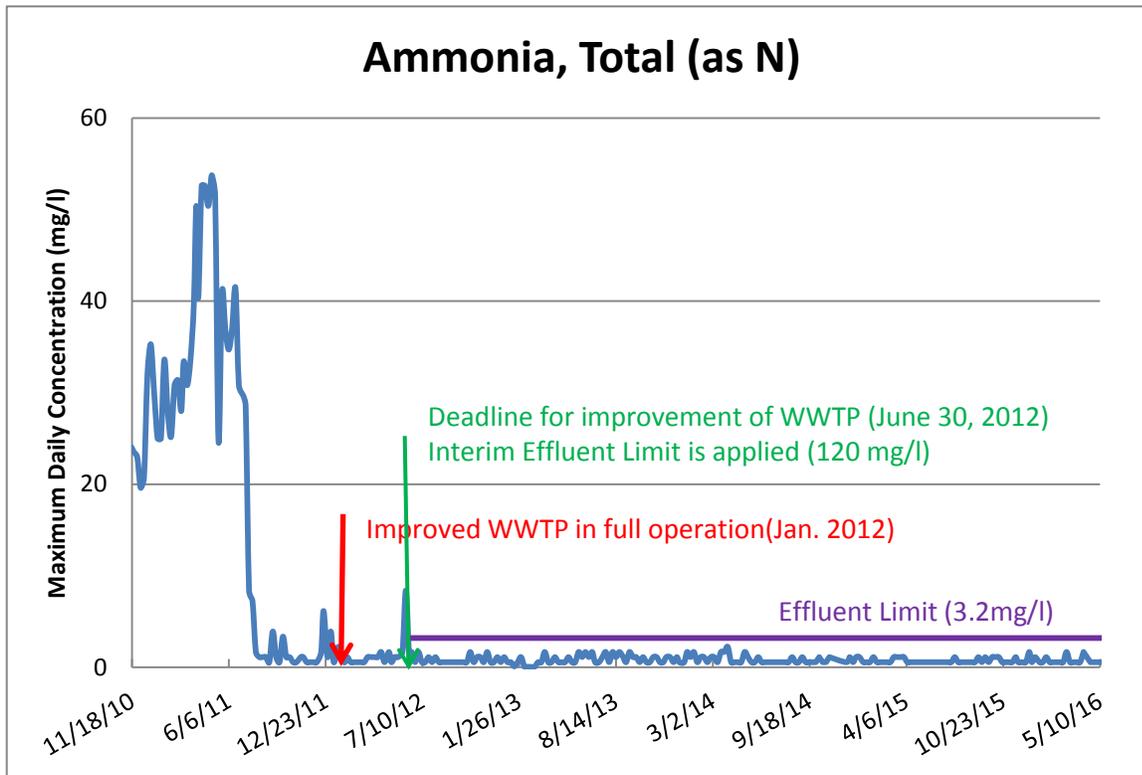


Figure 1: Total Ammonia concentration (mg/l) in terms of maximum daily

Summary and Recommendations

CDO R7-2008-0008, as amended, required the Discharger to cease and desist from discharging wastes in violation of Board Order R7-2005-0021, and to implement corrective actions in accordance with specified tasks and time schedules. The corrective actions including WWTP upgrades and development of the Pretreatment Program were fully implemented. The upgraded WWTP has been fully operational since January 2012, and review of the effluent data from the upgraded WWTP shows that the Discharger is in full compliance with the CDO and the current NPDES Permit. Thus, the rescission of the CDO is recommended.